

Notice of Allowability

Application No.

09/987,862

Examiner

Karabi Guharay

Applicant(s)

NAKAMOTO, MASAYUKI

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment, filed on 11/25/03.
2. ☒ The allowed claim(s) is/are 1-3, 6-17 and 21-25.
3. ☒ The drawings filed on 16 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 3 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No. <u>11/03</u> | 7 <input type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____. |

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Amendment, filed on 11/25/03 has been considered and entered.

Claims 4-5 and 18-20 are cancelled. Claims 21-25 are added.

Allowable Subject Matter

Claims 1-3, 6-17, 21-25 are allowed over the prior art of record.

Examiner's Reasons for Allowance

The following is an examiner's statement of reason for allowance:

Regarding claims 1, 12 and 22, the prior art of record neither shows nor suggests a field emission device of a lateral type comprising all the limitations set forth in amended claims 1 and 12, particularly the limitation of micro-bodies being partly buried in the metal plating layer.

Regarding claim 21, the prior art of record neither shows nor suggests a field emission device of a lateral type comprising the combination of limitations set forth in claim 21, particularly the limitation of metal plating layer having a resistivity of $10^{-8}\Omega\text{m}$ to $10^{-4}\Omega\text{m}$.

Regarding claim 23, the prior art of record neither shows nor suggests a field emission device of a lateral type comprising the combination of limitations set forth in claim 23, particularly the limitation of the micro-bodies are rod shaped bodies and 50% to 100% of the micro-bodies are oriented within an angular range of ± 20 degree relative to a major surface of the support substrate, where the cathode electrode is disposed.

Regarding claim 24, the prior art of record neither shows nor suggests a field emission device of a lateral type comprising the combination of limitations set forth in

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claim 24, particularly the limitation micro-bodies are rod shaped and hollow bodies and a filler layer consisting essentially of a conductive material disposed in the micro-bodies.

Regarding claim 25, the prior art of record neither shows nor suggests a field emission device of a lateral type comprising the combination of limitations set forth in claim 25, particularly the limitation of gate projection disposed on the second side to oppose the first side surface, the gate projection comprising a gate metal plating layer consisting essentially of the same material as that of the metal plating layer, and a plurality of gate micro-bodies supported in the gate metal plating layer in a dispersed state and consisting essentially of the same material as that of the micro-bodies.

Claims 2-3, 6-11 and 13-17 are allowed for being dependent on allowed base claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K. Guharay
Karabi Guharay
Patent Examiner
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VIP PATEL
PRIMARY EXAMINER